In the Name of Public Health: Air Pollution Control Ordinance Review Roundtable Discussion

15th June, 2018

SUMMARY OF SEMINAR
Prepared by Clean Air Network

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EXECUTIVE SUMMARY

Over the last few years (2013-17), Hong Kong's air quality at ambient and roadside level has improved by 30%, as a result of Government's initiatives. However, our air quality still falls short from World Health Organization's (WHO) recommended safe level. The problem is especially acute at roadside.

It is likely that a majority of the population is exposed to roadside pollution on most days of the week. This presents a high level of health risk to the whole community. Especially, the children, elderly, chronic patients, and the underprivileged are the most at risk. According to Hedley Environmental Index, air pollution caused over 1,800 premature deaths, 125,000 hospital bed days and 2.6 million doctor visits in Hong Kong in 2017 alone.

These are avoidable health costs to Hong Kong. One of the key questions to ask is, how could public health be further safeguarded through air pollution control?

On 15th June, 2018, we held a roundtable discussion among public health, legal, environmental experts and groups, and representatives from business sector and Legislative Council. The roundtable, titled "In the Name of Public Health - Air Pollution Control Ordinance Review Roundtable Discussion", was convened to explore how to improve public health through legislative approach. The roundtable provided an overview on the latest status of air pollution control legislations in Hong Kong, and explored the possibility of formation of a cross-disciplinary coalition to voice out the need to have public health as an overarching goal for air pollution legislation and policy framework.

The summary highlighted some of the key themes discussed in the roundtable.

Outdoor air pollution is **modifiable, involuntary and regulatable** – more control of outdoor air pollution is needed to adequately safeguard public health and social justice.

APCO - weaknesses in Air Pollution Control Ordinance (APCO) to protect public health still exist, such as - public health is not directly referenced; APCO does not ensure accountability for performance, no time-bound target to tighten HK Air Quality Objectives (AQOs) to World Health Organizations' Air Quality Guidelines (WHO AQGs) etc. These issues have not been addressed in recent amendments of APCO in 2013.

ACZ - APCO states the power of the Secretary to define an Air Control Zone (ACZ). There were 10 ACZs set up, but not updated since 1993. ACZ could be seen as a district approach to address air pollution sources in the local context, especially effective for the protection of vulnerable groups.

EIAO - weaknesses in Environmental Impact Assessment Ordinance (EIAO) to protect public health. Public health assessment is not mandatory in EIA process for development projects.

SUMMARY REPORT

Speakers Session & Open Discussion

THE LINK BETWEEN AIR POLLUTION AND PUBLIC HEALTH

Professor Lin-wei Tian (HKU School of Public Health) briefed participants on the impact of air pollution on public health in Hong Kong.

Long-term exposure to air pollution is one of the risk factors in leading to chronic diseases, such as lung cancer, premature deaths, increased incidence of asthma attacks and chronic obstructive pulmonary disease, etc.

Taking lung cancer as an example, there are risk factors causing the respiratory disease, such as genetics, smoking, environmental tobacco smoke (second-hand smoke), indoor and outdoor air pollution (such as PM2.5).

Among these factors, some are modifiable, some are involuntary, and some are regulatable. Arguably, outdoor air pollution is the only factor that is all modifiable, involuntary and regulatable.

Modifiable risk factors

- To improve public health and protect us from lung cancer (as an example), gene is largely unmodifiable – in the sense that we cannot change it via changing our behaviour. On the other hand, factors including smoking, second-hand smoke, indoor PM2.5 and outdoor PM2.5 are modifiable.

Involuntary risk factors

- Smoking is a voluntary behaviour – anyone can choose to refrain from smoking. However, one is forced to breathe in second-hand smoke, indoor and outdoor PM2.5 involuntarily.

- Indoor air pollution is affected by not only voluntary risk factors such as cooking fume which could be prevented by changing cooking behavior, but also involuntary risk factors such as penetration of air pollutant from ambient to indoor environment. Especially, the indoor/outdoor ratio would remain high during high pollution episodes.

- At outdoor environment, pollutions coming from various sources such as regional, power plant, ship and road transport are imposed on citizens involuntarily.

Regulatable risk factors

- Regulation could be imposed to control tobacco (smoking and second-hand smoke), and outdoor air pollution.

Outdoor Pollution Control is as impactful as Tobacco Control

- Comparing smoking and outdoor PM2.5, smoking contributes a higher toxicity at individual level than PM2.5 does.

- However, air pollution tends to affect everybody and causes a much higher exposure than smoking at population level. That means **controlling environmental health risks such as air pollution can bring health benefits to everybody in the city.**

Remarks

Professor Tian emphasized air pollution is modifiable and can be regulated to reduce public health risk. However, referencing from WHO's Air Quality Guidelines, **the current HK Air Quality Objectives is still *a long way to go* to improve our air quality and public health**.

REVIEW OF CURRENT AIR POLLUTION CONTROL ORDINANCE (APCO)

Antonio da Roza (Barrister-at-law) briefed participants the most recent updates on APCO, including amendment in 2013 that implemented a new procedure for setting AQOs which led to updated AQOs in 2014.

Despite the amendment in 2013, there are issues left unaddressed -

1) public health is not directly referenced in the process of setting up Air Quality Objectives (AQOs);
2) the AQO stated in APCO is not updated with reference to international standards or local health research;
3) **the process and tools in APCO falls short of ensuring monitoring, accountability for performance, and enforcement.**

Observations

<u>APCO Section 6 and Cap.311E – Unrelated Air Control Zones in APCO</u>

Specifically, the section 6 of the APCO states the power of the Secretary to define an Air Control Zone (ACZ). There are 10 ACZs specified in Cap.311E as a subsidiary legislation of APCO (see figure 1). However, Air Control Zones are not defined by any scientific justification and have not been updated since 1993.

<u>Relating AQOs and ACZ – the possibility of a localised approach to control ambient pollution</u>

There is a possibility of adopting a more scientific approach to redefine each ACZ and to control ambient pollution for each particular ACZ. Currently, the schedule 5 of APCO which specifies AQOs does not make reference to any ACZs.

<u>Achieving AQOs by ACZ approach</u>

Antonio ended by arguing for government accountability for achieving AQOs. It is possible for the government to re-introduce ACZ as a statutory tool to achieve clean air. Antonio also called for a more specialized and localized approach of ACZs such as the implementation of Low Emission Zone with reference to ACZs.

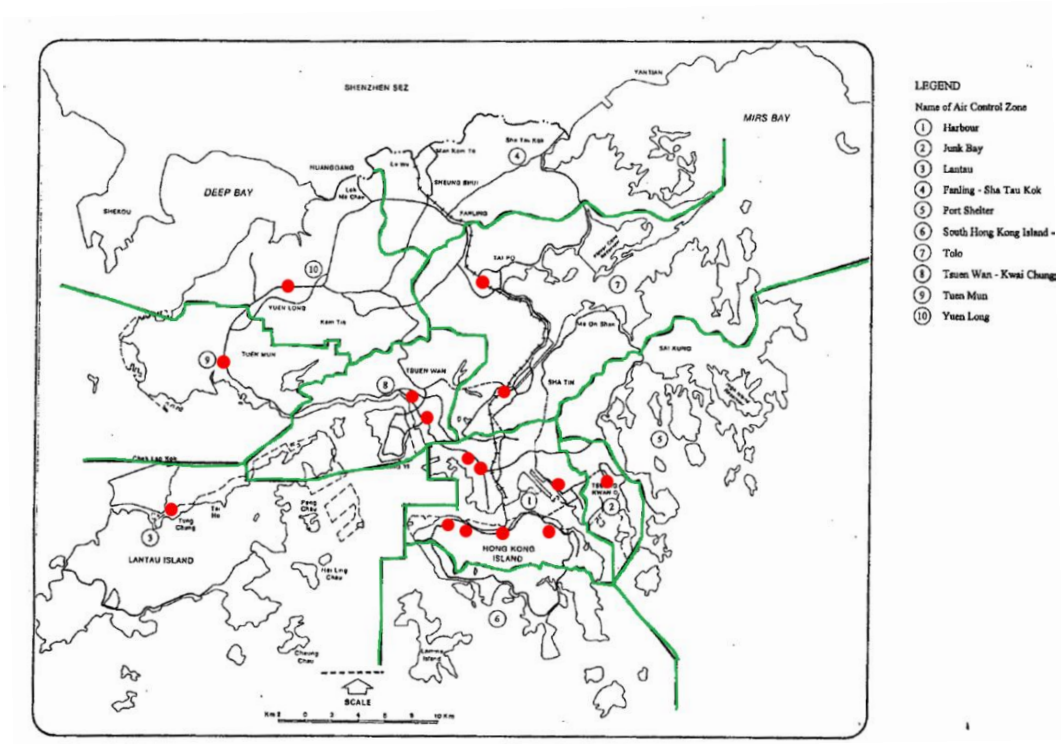

Figure 1 - 10 Air Control Zones specified in CAP 311E of APCO

General discussion among attendees in response to Antonio's presentation

Q: Is ACZ the best tool for better air quality management?

1) There are ACZs that are easier to achieve AQOs, and can continuous to push other non-compliance ACZs to achieve AQOs;

2) The ACZ approach can help the government to devise specific air control strategies in different parts of Hong Kong, since the zones have different ambient concentration of pollutants;

3) Even sub-parts within ACZs can be designated a different AQO. This can help to monitor areas with specific demographic profile, such as large population of the vulnerable such as the elderly and children to maximize public health interest.

4) Given the good intention to provide localized solutions, it is also worthwhile taking into consideration how district council reacts with differential levels of AQOs in ACZ.

Q: Do we need to change the boundary and AQOs of ACZ? Can we devise different strategies for different ACZs?

Based on the advancement in monitoring technology, the government can re-draw the boundary of the 10 ACZs and set respective AQOs for each ACZ. A specific strategy can hence be set for each ACZ.

HONG KONG's APCO AND AQO COMPARED TO OTHER JURISDICTIONS

Tsz-wai Loong (Clean Air Network) outlined the findings of a comparative legal study report compiled in collaboration between Clean Air Network and Linklaters facilitated by Thomson Reuters Foundation.

The report, titled as 'Multi-Jurisdictional Comparative Study on Air Pollution Control Regulations (June 2018)', is a comparative study of the air pollution control strategies and legislation at both national and state/city levels in jurisdictions of Hong Kong, the United Kingdom, the city of London, the European Union, United States, California, Japan, the city of Tokyo, and Singapore.

As shown below, five parameters are set to investigate status of different jurisdictions:

1) Whether public health protection is cited as an express legal and policy objective;
2) Whether there is clear legal standard / objective that relevant authority must be accountable for;
3) Whether there is an authorized body or commission to develop programs/roadmaps to protect public health;
4) Whether there is a timeline for compliance with the legal limit or a target to reduce adverse health impact;
5) Whether government and other parties are held accountable for failing to achieve air quality objectives.

Findings
Unfortunately Hong Kong's regulation is all negative for the above parameters – public health is not the legal nor policy objective; AQOs are non-binding and only aspirational targets to be achieved; there is no specific body to develop roadmaps to protect public health caused by air pollution; there is no specific timeline for compliance and the government is not accountable for failing to achieve AQOs.

Remarks
Echoing the earlier discussion on Air Control Zones (ACZs), Loong further introduced the latest UK consultation on controlling roadside emissions of nitrogen dioxide and compared it with Hong Kong's AQOs public engagement exercises.

Not all ACZs are equipped with EPD air quality monitoring stations; and AQOs could be set with reference to ACZs to ensure a clear source apportionment of air pollutants, with specific air control strategy for each zone listed in a clear timeline.

General discussion among attendees in response to Loong's presentation
<u>Different Approach to tackling Air Pollution</u>
California Air Resource Board (CARB) is a good example which takes "legislative-led approach" - the Board set a better-than-minimum air quality level (target) that can effectively protect public health above all other considerations. The State then needs to develop "maximum achievable control technology" in achieving the target.

MANDATING PUBLIC HEALTH IN APCO AND EIAO

Hon. Dennis Kwok (member of Legislative Council) presented the Judicial Review cases and summarized the lessons learnt.

Chu Yee Wah v Director of Environmental Protection
Public Interest is essentially Public Health.

Clean Air Foundation Ltd v The Government of the HKSAR
The Judge was not able to judge whether there is a constitutional right to impose duty on the government to combat air pollution. Merits of government policy was considered as a matter of executive branch, not a judgement to be called by Judiciary in Hong Kong

Recommendations

1) Under the current Environmental Impact Assessment Ordinance (EIAO), public health impact assessment is not mandatory.

2) There were projects which conducted public health impact assessment, for example, the EIA for the integrated waste management facilities, to be built on Shek Kwu Chau, has included the human health impact assessment. However, it is not a mandatory practice.

3) Under EIAO, a comprehensive public health impact assessment is needed to better protect public interest, which is essentially public health.

4) One possible way, is to amend the Technical Memorandum issued under EIAO to mandate public health impact assessment in EIA studies, in order to protect public interest.

General discussion among attendees in response to Dennis' presentation

Q: What changes could be made concerning Technical Memorandum (TM) of EIAO, would it be a 'Christmas tree' legislation that requires a lot of time?

It is not necessary to update the substantial legislation. Government is able to update the TM through administrative means. The standard of EIAO is set based on the TM, and TM is the statutory instrument that the administration can update anytime.

Besides TM, the fundamental solution is to revise guidelines for consultants in conducting EIA study regarding the data collection, data analysis and the methodology used.

On way forward to clean air

1) The society as a whole to distinguish between the air quality level **should** be achieved and the level that **can** be achieved
- What can be done: Practicability of Implementing Air Quality Improvement Measures

- What should be done: Public Health-driven Goal and Air Quality Level

2) There exists fundamental differences in the mindset of administration: technical feasibility (HK) vs. legislative-led approach (e.g. California Air Resource Board)

Breakout Session

Key Discussion Question

DO YOU AGREE MAXIMIZING PUBLIC HEALTH GAIN IS ONE OF THE MAJOR GOALS OF SETTING AIR QUALITY OBJECTIVES IN HK?

- If so, please suggest possible approaches and specific activities to achieve this goal
- If not, please suggest why not

Insights

1) An implicit way to amend APCO in order to prioritise public health in setting AQOs

   While the term 'Air pollution' is defined as *prejudicial to health* in Section 2, the mention of 'Air Pollution' is absent in the process of setting AQO in Section 7.
   Therefore, the addition of term 'tackling air pollution' in Section 7 is a simple and effective way to connect the purpose of setting AQO to the objective of protecting public health.

2) Enhance accountability among cross-departmental effort within HKSAR Government

   Cross-departmental responsibility should be clearly stipulated, emphasizing the specific role of each department. In order to achieve this, again, public consensus and pressure is the key.

3) Enhance accountability between HK-GD Governments

   With more intense regional cooperation in PRD, Hong Kong may seek for intergovernmental structure or entity to deal with regional pollution, e.g. the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection, which may seem a good platform to monitor and drive progress of HKSAR Government regulations in compliance with agreed targets on the regional scale.

4) New Definition of Air Control Zones

   - Monitoring network and modelling system for each ACZ to ensure monitoring;
   - Set up Interim targets for each ACZ, achieved by localized action plans implemented by Government;
   - Revise geographical boundary of ACZ in CAP 311E and give details in working mechanism through Technical Memorandums under APCO. This enables possibly faster and more flexible policy intervention without the need of prolonged legislative procedure to amend legislation.

5) Concerted effort is needed from public

It is important for various disciplines to voice out the need of protecting public health (e.g. schools, patients' group, health associations, green groups)

Public participation is the key to drive legislative, institutional and policy changes. A couple ways to encourage strong public participation:

- Target districts with larger vulnerable population;
- The coalition is able to empower the public members with knowledge about air pollution issue;
- Minority, who are vulnerable groups, could become major forces of change
- Some issues on district level could be easier led to the debate of the revision of APCO and AQOs. For example, air quality issue at Semi-confined Public Transportation Interchange (bus terminals) is resonated by general public.

Acknowledgement

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Appendix - Glossary of Terms

ACZ – Air Control Zones
AQO – Air Quality Objectives
APCO – Air Pollution Control Ordinance
CARB – California Air Resources Board
ETS – Environmental Tobacco Smoke (Second-hand Smoke)
EIA – Environmental Impact Assessment
EIAO – Environmental Impact Assessment Ordinance
EPD – Environmental Protection Department
TM – Technical Memorandum
PM2.5 – Particulate Matter 2.5